TESTIMONY OF

THE CONNECTICUT SOCIETY OF MEDICAL ASSISTANTS AND THE AMERICAN MEDICAL TECHNOLOGIST

SUBMITTED TO THE PUBLIC HEALTH COMMITTEE

FEBRUARY 21,2017

BILL 6025 AN ACT ALLOWING MEDICAL ASSISTANTS TO ADMINISTER MEDICATION UNDER SUPERVISION

Dear Members of the Public Health Committee:

My name is Tabitha Opie. I am triple credentialed with CMA, RMA, and CPT. I am a volunteer on the legislation committee for the Connecticut Society of Medical Assistants with the AAMA. I am support the concept of the Bill 6025.

In the Past, I have testified that as a preschool teacher certified in CPR, First Aid, and trained in Medication Administration. As a teacher, I was administering first aid, CPR, Tylenol, Benadryl, albuterol, epi-pen, and trained to administer emergency insulin injections to students in need. This training is approved by the CTDPH, and offered by local fire departments and Local VNA.

I have also, previously testified, as a graduate of an Accredited organization, I have exceeded educational requirements of LPN's in some aspects of medical training. My training has included many topic areas which include but are not limited to core academics, Law and Ethics, Medical Office Procedures, Insurance, Billing, and Coding, Anatomy and Physiology, Medical Terminology, Pharmacology.

I would like to focus your attention on the past concerns our colleagues have that oppose this bill.

1. Proper Training- Medical Assistants have been trained with in Pharmacology, Medical Terminology, and Anatomy and Physiology. Prior to Graduation Theses three classes, ALONE, total 15 credit hours with 230.00 contact hours. During this time, students have educational lecture, testing, and hands on learning with mannequins and live human.
2. Administration Errors- It has been said that we will make mistakes and cause administration errors. Please see the following examples of administration errors that have happened that did not involve Medical Assistants.

   The following 4 examples are from the "American Nurse Today" journal, March 2010, vol.5, no.3.

a. A Critical Care Nurse rushing to catch up on her morning crushes pills and puts them into a patients NG tube, she failed to notice the "Do not crush" warning in the electronic medication record.
b. An ICU Nurse prepares to inject morphine into a patients ICP drain which she had mistaken for the central line.
c. A Physician ordered primidone and the pharmacist misread the prescription for prednisone.
d. From 2003-2006 25,530 errors were reported from sounds like or looks like medication names.
e. The FDA reported on September 22, 2005, medications were incorrectly interpreted and/or filled due to the similarity between names or overlapping strengths for Toprol-xl, and Topamax
f. The FDA reported in February 2015, 3 medication errors related to strength confusions for Avycaz, during preparation in the pharmacy. In addition to 20 reports of medication errors in June 2015 from the confusion between Brintellia and Brillinta.
g. Per the American Nursing Association (ANA), death certificates show 1,200 deaths in 1993 were from medication errors, which was doubled from 1983.
h. Lastly, I would like to point out the survey From the American Nursing Association (ANA) performed on July 18, 2007.
   Nurses were asked what they felt were the most contributing factors of errors:
   1. Too rushed/busy environment
   2. Poor/illegible handwriting
   3. Missed or mistaken physician order
   4. Similar drug names or medication appearance
   5. Working with too many medications

As you can see from my examples, Medical Assistants will bring no more fault to the environment, that is not already present. Hopefully with fresh eyes, current training, and continued CEU's, Medical Assistants will work cautiously to avoid these errors from happening. Our Assistance will help nurses from felling rushed in the busy environment, lend and extra eye on the medications to help lessen the work load, and with modern technology, HER has taken care of the other contributing factors.

Independent community based providers, federally qualified health centers all seek to meet an environment familiar to the patient that is comprehensive and empathetic.

Medical Assistants in the state of Connecticut are cross trained within the scope of the whole office, including the training to perform these tasks. Allowing Medical assistants to administer medication allows for more continuity in patient care.

It is truly to benefit the patients and the communities.

On behalf of AMT and AAMA, as a member of both affiliations, I fully support this bill 6025

Thank you for your time.

Sincerely,

Tabitha Opie, CMA, RMA, CPT

Date: 11/12/2012

Branford Hall Career Institute - Branford Campus

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Name:	Tabitha Opie	**Social Security #:**	[redacted]	**Start Date:**	4/12/2011
Address:	[redacted]	**Student #:**	1342757	**LDA:**	11/5/2012
City State Zip:	[redacted]	**Date of Birth:**	[redacted]		

Course Code	Course Description	Course End Date	Credit Hours	Contact Hours	Grade	Quality Points
Program: Medical Assistant	Status: Extern	**Credential Awarded:**			LDA 11/05/2012	
110BKB	Basic Keyboarding		1.00	30.00	P	0.00
110BS	Basic Skills		0.50	20.00	T	0.00
110BWS	Business Writing Skills		2.00	30.00	T	0.00
110LE	Law & Ethics	6/17/2011	1.50	30.00	A	6.00
110OA	Office Administration I	6/17/2011	1.50	30.00	A	6.00
110PP	Personal Psychology	6/17/2011	1.50	30.00	A	6.00
412IBC	Insurance, Billing and Coding	6/17/2011	1.50	30.00	B+	5.00
410MTA	Medical Terminology A	8/26/2011	2.00	30.00	B	6.00
410APA	Anatomy & Physiology A	8/30/2011	2.00	30.00	A-	7.34
121ABW	Applied Business Writing	11/11/2011	2.00	30.00	A	8.00
121WPW	Word Processing I for Windows	11/11/2011	1.00	30.00	A	4.00
410PHA	Pharmacology A	11/11/2011	1.00	20.00	A	4.00
412MCA	Medical Clinical Procedures A	11/11/2011	1.50	40.00	A	6.00
131WPW	Word Processing II for Windows	1/26/2012	1.00	30.00	A	4.00
410MOP	Medical Office Procedures	1/26/2012	1.00	30.00	A	4.00
421APB	Anatomy & Physiology B	1/26/2012	2.00	30.00	A	8.00
421MTB	Medical Terminology B	1/26/2012	2.00	30.00	A	8.00
421PHB	Pharmacology B	4/5/2012	1.00	20.00	A	4.00
422MCB	Medical Clinical Procedures B	4/5/2012	2.00	50.00	A	8.00
422PHL	Phlebotomy Essentials	4/5/2012	1.50	30.00	A	6.00
110CD	Career Development	6/14/2012	1.00	20.00	A	4.00
111CBS	Computerized Billing Simulation	6/14/2012	1.50	40.00	A	6.00
431APC	Anatomy & Physiology C	6/14/2012	2.00	30.00	A	8.00
431MTC	Medical Terminology C	6/14/2012	2.00	30.00	A	8.00
431PHC	Pharmacology C	8/30/2012	1.00	20.00	A	4.00
432MCC	Medical Clinical Procedures C	8/30/2012	3.00	100.00	A-	11.01
Enrollment Totals:			40.00	840.00		

GPA: 3.87

Grade Scale:

Grade	GR Range	Num	Desc
A	93.00-100.00	4.00	A
A-	90.00-92.00	3.67	A-
B+	87.00-89.00	3.33	B+
B	83.00-86.00	3.00	B
B-	80.00-82.00	2.67	B-
C+	77.00-79.00	2.33	C+
C	73.00-76.00	2.00	C
C-	70.00-72.00	1.67	C-
D+	67.00-69.00	1.33	D+
D	63.00-66.00	1.00	D
D-	60.00-62.00	0.67	D-
F	0.00-59.00	0.00	Failure
P	0.00-0.00	0.00	Proficiency
S	0.00-0.00	0.00	Satisfactory Extern

T	0.00-0.00	0.00	Transfer
W	0.00-0.00	0.00	Withdrawal

** Indicates Retaken Course
R* Indicates Repeatable Course

Not official unless signed by registrar.

Date: 11/12/2012

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Name:	Tabitha Opie	**Social Security #:**	[redacted]	**Start Date:**	4/12/2011
Address:	18 Lea Road	**Student #:**	1342757	**LDA:**	11/5/2012
City State Zip:	North Branford, CT 06471	**Date of Birth:**	03/08/80		

Course Code	Course Description	Course End Date	Credit Hours	Contact Hours	Grade	Quality Points

*** End of Transcript ***

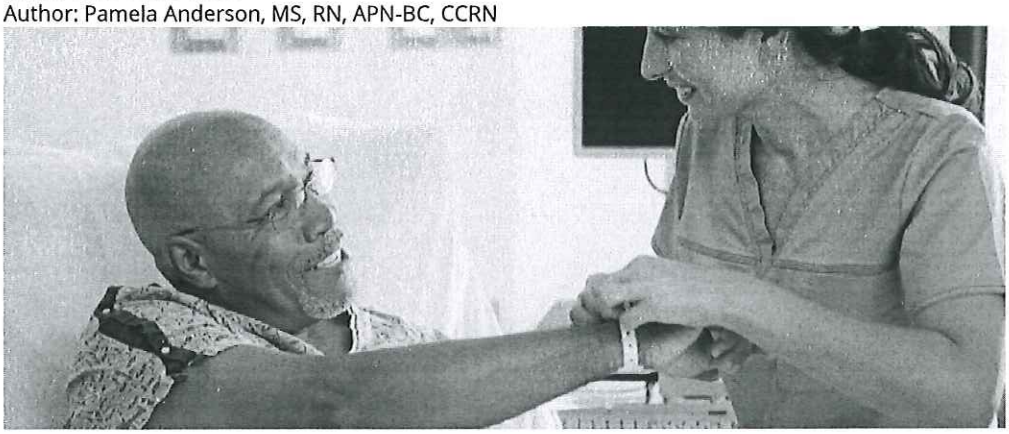
Authorized Signature [signature] Date 11/12/2012

** Indicates Retaken Course
R* Indicates Repeatable Course

Not official unless signed by registrar.

Medication errors: Don't let them happen to you

March 2010 Vol. 5 No. 3
Author: Pamela Anderson, MS, RN, APN-BC, CCRN



A critical care nurse tries to catch up with her morning medications after her patient's condition changes and he requires several procedures. He is intubated, so she decides to crush the pills and instill them into his nasogastric (NG) tube. In her haste to give the already-late medications, she fails to notice the "Do not crush" warning on the electronic medication administration record. She crushes an extended-release calcium channel blocker and administers it through the NG tube. An hour later, the patient's heart rate slows to asystole, and he dies...

A patient returns from surgery, anxious and in pain, with several I.V. lines and an intracranial pressure (ICP) monitor in place. The I.V. tubing used in the operating room differs from the tubing used in the intensive care unit (ICU). In her haste, the ICU nurse prepares to inject morphine into the patient's ICP drain, which she has mistaken for the central line. She stops just in time when she realizes she's about to make a serious mistake...

A physician writes an order for primidone (Mysoline) for a 12-year old boy with a seizure disorder. Misreading the physician's handwriting, the pharmacist mistakenly fills the order with prednisone. For 4 months, the boy receives prednisone along with his seizure medications, causing steroid-induced diabetes. The diabetes goes unrecognized, and he dies from diabetic ketoacidosis...
Medication errors like these can happen in any healthcare setting. According to the landmark 2006 report "Preventing Medication Errors" from the Institute of Medicine, these errors injure 1.5 million Americans each year and cost $3.5 billion in lost productivity, wages, and additional medical expenses. (See Sobering statistics by clicking the PDF icon above.)

Medication administration is a complex multistep process that encompasses prescribing, transcribing, dispensing, and administering drugs and monitoring patient response. An error can happen at any step. Although many errors arise at the prescribing stage, some are intercepted by pharmacists, nurses, or other staff.

Administration errors account for 26% to 32% of total medication errors—and nurses administer most medications. Unfortunately, most administration errors aren't intercepted. Recent technological advances have focused on reducing errors during administration.

Ten key elements of medication use

Many factors can lead to medication errors. The Institute for Safe Medication Practices (ISMP) has identified 10 key elements with the greatest influence on medication use, noting that weaknesses in these can lead to medication errors. They are:

- patient information
- drug information
- adequate communication
- drug packaging, labeling, and nomenclature
- medication storage, stock, standardization, and distribution
- drug device acquisition, use, and monitoring
- environmental factors
- staff education and competency
- patient education
- quality processes and risk management.

Patient information

Accurate demographic information (the "right patient") is the first of the "five rights" of medication administration. Required patient information includes name, age, birth date, weight, allergies, diagnosis, current lab results, and vital signs.

Barcode scanning of the patient's armband to confirm identity can reduce medication errors related to patient information. But initially, barcode technology increases medication administration times, which may lead nursing staff to use potentially dangerous "workarounds" that bypass this safety system. Also, the barcode method isn't fail proof; the patient's armband may be missing or may fail to scan, or the scanner's battery may

September 22, 2005

IMPORTANT ALERT REGARDING MEDICATION ERRORS
TOPROL-XL® and TOPAMAX®
TOPROL-XL® and TEGRETOL® and TEGRETOL-XR®

Dear Health Care Professional:

AstraZeneca has received reports of medication errors involving confusion between its beta blocker **TOPROL-XL®** (metoprolol succinate) extended release tablets, indicated for the treatment of hypertension, long-term treatment of angina pectoris, and heart failure NYHA Class II or III, and **Topamax®** (topiramate), a product of Ortho-McNeil Neurologics, Inc, indicated for the treatment of epilepsy and migraine prophylaxis. There have also been reports of medication errors involving confusion between TOPROL-XL and **Tegretol®** or **Tegretol-XR®** (carbamazepine), a product of Novartis Pharmaceuticals Corporation, indicated for the treatment of complex partial seizures, generalized tonic-clonic seizures, and trigeminal neuralgia. These reports include instances where TOPROL-XL was incorrectly administered to patients instead of Topamax, Tegretol, or Tegretol-XR, and **vice versa**, some of them leading to adverse events.

Adverse events have been reported to occur as a result of nonadministration of the intended medication and/or exposure to the wrong medication. In some cases, hospitalization was required. Examples of serious events reported that might represent relapses and/or worsening of the underlying conditions under treatment include recurrence of seizures; return of hallucinations; suicide attempt; and recurrence of hypertension. Examples of serious events consistent with the pharmacologic activity of the administered agent include bradycardia in a patient erroneously receiving TOPROL-XL.

According to the medication error reports, verbal and written prescriptions were incorrectly interpreted and/or filled due to the similarity in names between TOPROL-XL, Topamax, Tegretol, and Tegretol-XR. Furthermore, overlapping strengths between TOPROL-XL and Topamax (25 mg, 50 mg, 100 mg, and 200 mg) and between TOPROL-XL, Tegretol and Tegretol-XR (100 mg and 200 mg), and the fact that these three products were stocked close together in pharmacies may also have contributed to causing these errors.

TOPROL-XL® (metoprolol succinate) extended release tablets are available as white, biconvex, film-coated, and scored tablets with the following characteristics

Tablet	Shape	Engraving	Sample
25 mg*	Oval	A ß	
50 mg	Round	A mo	
100 mg	Round	A ms	
200 mg	Oval	A my	

*The 25 mg tablet is scored on both sides

Topamax tablets are available as debossed, coated, round tablets with the following characteristics

Tablet	Color	Engraving	Sample
25 mg	White	"TOP" on one side, "25" on the other	
50 mg	Light-Yellow	"TOPAMAX" on one side, "50" on the other	
100 mg	Yellow	"TOPAMAX" on one side, "100" on the other	
200 mg	Salmon	"TOPAMAX" on one side, "200" on the other	

Tegretol tablets are single-scored tablets with the following characteristics

Tablet	Color/Shape	Engraving	Sample
100 mg	Red speckled, Pink Round	"TEGRETOL" on one side, "52" twice on the scored side	
200 mg	Pink Capsule-shaped	"TEGRETOL" on one side, "27" twice on the scored side	

Tegretol XR tablets are coated, round tablets with the following characteristics

Tablet	Color	Engraving	Sample
100 mg	Yellow	"T" on one side, "100 mg" on the other side	
200 mg	Pink	"T" on one side, "200 mg" on the other side	
400 mg	Brown	"T" on one side, "400 mg" on the other side	

TOPROL-XL® (metoprolol succinate) has a boxed warning against abrupt cessation of therapy in patients with ischemic heart disease, as it may precipitate angina or myocardial infarction.

Tegretol has a boxed warning regarding aplastic anemia and agranulocytosis.

Topamax, Tegretol-XR, and Tegretol have a warning that as with all antiepileptic drugs, they should be withdrawn gradually to minimize the potential of increased seizure frequency.

The products involved in medication errors are indicated for the treatment of serious medical conditions. Erroneous administration, or delay in administration of the prescribed medications of TOPROL-XL, Topamax, Tegretol, and Tegretol-XR may cause serious health consequences.

Your assistance is requested in clearly communicating oral and written prescriptions for these products to help avoid future dispensing errors. Steps you can take to decrease the potential for medication errors include printing legible prescriptions that include the brand and generic names with indication, and discussion of indications and proper use of medications with patients.

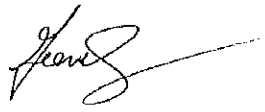
To help minimize the risk for dispensing errors, AstraZeneca will also be notifying pharmacists as to the potential for drug name confusion.

If you become aware of any name confusion and/or dispensing errors, you should report them immediately to the appropriate manufacturer (AstraZeneca 1-800-236-9933; Ortho-McNeil Neurologics, Inc. 1-800-682-6532; Novartis Pharmaceuticals Corporation 1-888-669-6682). You can also report medication errors to the FDA's MEDWATCH program at www.fda.gov/medwatch, 1-800-FDA-1088 or fax to 1-800-FDA-0178 or the USP-ISMP Medication Errors Reporting Program, 1-800-233-7767.

Also, please refer to the enclosed full Prescribing Information for TOPROL-XL, or visit www.TOPROL-XL.com

Thank you for your attention to this matter.

Sincerely,



Glenn J. Gormley MD, PhD
Chief Medical Officer

Safety Announcement

The U.S. Food and Drug Administration (FDA) is warning health care professionals about the risk for dosing errors with the intravenous antibacterial drug Avycaz (ceftazidime and avibactam) due to confusion about the drug strength displayed on the vial and carton labels. Avycaz was initially approved with the vial and carton labels displaying the individual strengths of the two active ingredients (i.e., 2 gram/0.5 gram); however, the product is dosed based on the sum of the active ingredients (i.e., 2.5 gram). To prevent medication errors, we have revised the labels to indicate that each vial contains Avycaz 2.5 gram, equivalent to ceftazidime 2 gram and avibactam 0.5 gram (see Photos).

Avycaz is approved for intravenous administration to treat complicated infections in the urinary tract, or in combination with the antibacterial drug metronidazole to treat complicated infections in the abdomen in patients with limited or no alternative treatment options. Antibacterial drugs work by killing or stopping the growth of bacteria that can cause illness.

Since Avycaz's approval in February 2015, we have received reports of three medication error cases related to confusion on how the strength was displayed on the Avycaz vial and carton labels. Two cases stated that the errors occurred during preparation of the dose in the pharmacy. The third case described concern about the potential for confusion because the strength displayed for Avycaz differs from how the strength is displayed for other beta-lactam/beta-lactamase antibacterial drugs. Based on the information provided in the reports, we are aware that at least one of the patients received a higher-than-intended dose of Avycaz. No adverse events were reported.

We urge health care professionals and patients to report side effects and medication errors involving Avycaz to the FDA MedWatch program, using the information in the "Contact FDA" box at the bottom of the page.

07-30-2015] The U.S. Food and Drug Administration is warning health care professionals and patients tha reports of confusion between the antidepressant Brintellix and anti-blood clotting medication Brilinta have resulted in the wrong medication being prescribed or dispensed. We have determined that the main reasor for the confusion between these two medications is the similarity of their brand (proprietary) names. None of the reports indicates that a patient ingested the wrong medication; however, reports of prescribing and dispensing errors continue. As a result, we are alerting the public about this safety issue.

Health care professionals can reduce the risk of name confusion by including the generic (established) name of the medication, in addition to the brand name, and the indication for use when prescribing these medications. Patients should check their prescriptions to ensure that the correct medication was dispensec (See Additional Information for Patients and Caregivers for more detailed recommendations).

Brintellix (vortioxetine) is used to treat a certain type of depression called major depressive disorder (MDD) in adults. It is in a class of antidepressants called selective serotonin reuptake inhibitors (SSRIs) that work by affecting chemicals in the brain that may become unbalanced. Brintellix is a tear-shaped tablet stamped with "TL" on one side of the tablet and a number that indicates the tablet strength on the other side. It varie in color depending upon the strength prescribed.

Brilinta (ticagrelor) is an antiplatelet, anti-blood clotting medication used to lower the risk of having another heart attack, or dying from a heart problem after a heart attack or severe chest pain. It works by keeping th platelets in the blood from sticking together, thereby preventing blood clots that can occur with certain hear conditions. Brilinta is a round, yellow tablet with a "90" above a "T" stamped on one side.

As of June 2015, FDA has received 50 reports of medication error cases describing brand name confusion with Brintellix and Brilinta. Most of the cases reported concerns that similarities in the sound, look, or both sound and look of the two brand names could cause confusion for prescribers and pharmacists. Some cases resulted in the wrong medication being dispensed to a patient. In one case, a pharmacist misinterpreted Brintellix as Brilinta and did not dispense any medication because the patient had a contraindication to blood thinners.

ANA AMERICAN NURSES ASSOCIATION NursingWorld

Near Misses

Report Near Misses

Adverse Drug Events

The Institute for Healthcare Improvement (IHI) refers to adverse drug events (ADEs) as *injuries attributable to the use of medications* ([1]). Hospitalized patients who experience an ADE are almost twice as likely to die as those without an ADE ([2]). Death certificate data showed that almost 1,200 hospital deaths in 1993 were due to medication errors. In addition, the incidence of such deaths had more than doubled since 1983 ([3]). Medication errors are one of the leading causes of injury to hospital patients, and chart reviews reveal that over half of all hospital medication errors occur at the interfaces of care ([4]). ADEs account for 6.3% of malpractice claims ([5]). A study of pediatric cancer patients revealed variances between medication orders and information from patient/guardian or prescription labels on the container 30% of the time ([6]). A multidisciplinary check of medication orders, also for pediatric cancer patients, revealed that 42% of the orders being reviewed needed to be changed ([7]). According to one estimate, in any given week four out of every five U.S. adults will use prescription medicines, over-the-counter (OTC) drugs, or dietary supplements of some sort, and nearly one-third of adults will take five or more different medications.

Most of the time these medications are beneficial, or at least they cause no harm, but on occasion they do injure the person taking them. At the urging of the Senate Finance Committee, the United States Congress mandated that Centers for Medicare and Medicaid Services sponsor a study by the IOM to address the problem of medication errors. *Preventing Medication Errors* ([8]) puts forward a national agenda for reducing medication errors based on estimates of the incidence and cost of such errors and evidence on the efficacy of various prevention strategies.

The report finds that medication errors are surprisingly common and costly to the nation, and it outlines a comprehensive approach to decreasing the prevalence of these errors. This approach will require changes from doctors, nurses, pharmacists, and others in the health care industry, from the Food and Drug Administration (FDA) and other government agencies, from hospitals and other health-care organizations, and from patients.

Despite numerous studies into the causes and management of medication errors, they continue to occur on a daily basis in most healthcare institutions ([10]). It is commonly assumed that errors occur because of a lack of knowledge and additional in-service education is often implemented following an error. However, one study found that failure to follow the correct procedure was associated with only a small proportion of the errors observed in a large study of over 1000 drug administrations ([11]). All nurses receive training on this important aspect of their role and if questioned, most if not all, would be able to recite the correct procedure for checking medicines. But, as has been pointed out, "humans will always err, and need assistance in checking procedures to detect mistakes" ([12]). The literature suggests that other factors such as workload, shift pattern worked, time of day and environmental factors can also contribute to errors ([13; 14]).

Near Misses

Although in the vast majority of cases no significant harm befalls the patient, except perhaps to receive sub-therapeutic treatment, making an error can seriously affect the nurse and his/her clinical confidence. The first feelings of disbelief are rapidly followed by fear for the patient's safety, fear of personal consequences and then feelings of professional failure ([15]).

The American Nurses Association (ANA) has been working to quantify nurses' interventions in preventing errors by capturing information about "near misses." The following nurses' responses are intended to inform their colleagues, hospitals, and others of strategies to make patients safer. The ANA "Near Misses" questionnaire has been submitted anonymously by a number of nurses. Their confidential responses from the fourth quarter of 2005 have been aggregated and information synthesized from the data is presented below.

Issues

Respondents defined patient safety issues that have occurred. Central to those reports is a sense that practitioners are n ot engaging in the "5 Rights" consistently prior to administration of medication. Relying on accuracy of medications in automatic dispensing systems rather than consistently engaging in the 5 rights prior to administration of medication is particularly problematic. There are errors made by individuals at all steps in the medication process (prescribing, transcribing, dispensing and administering) frequently due to a lack of adherence to organizational policies and procedures. However, insufficient numbers of adequately experienced nurses on staff resulting in utilization of "float" nurses; as well as a lack of sufficient support staff to assist nurses in providing safe patient care are repeatedly implicated in medication errors.

There is frequently an incomplete noting of patient allergies. Incorrect utilization of devices, including those designed to be of assistance to patients as well as to administer medications has resulted in harm to patients. Finally, chemotherapeutic agents, look-alike/sound-alike drugs and anti-diabetic agents are of particular relevance in the reports.

Role

Nursing's role in the interventions was highlighted. Registered nurses (RNs) were far and away the discipline most reported as being the individuals who prevented errors. Patients, too, took an active role in preventing error, especially in regards to incorrect oral medications. Licensed Practical/Vocational Nurses (LP/VNs), serving in the role of medication nurse, were also noted as intervening, particularly in long term care settings. Of particular note was the number of instances in which nursing students intervened to prevent errors from occurring.

Outcome

Fortunately, for the most part, errors were discovered before incorrect medications were administered and patients eventually received the right dose of the right medication . The majority of adverse patient outcomes as described resulted in no long-term effects. Minor effects including itching and rashes. More serious results included skin breakdown. Involved patients were frequently submitted to delays in treatment as well as to additional tests. In addition, hospitalizations were sometimes extended, often in a higher level of care.

Recommendations

Ways in which errors can be avoided were suggested:

- A system of checks and balances should be employed vis-à-vis medication administration;
- Part of checks and balances is asking, asking, and asking again;
- Adequate numbers of appropriately qualified staff are critical;
- Engaging the patient and family in the process of care;
- Implementation of technology including computerized prescriber order entry (CPOE) and barcoding;
- A complete history and physical should be conducted;
- Patients should be treated holistically; not just for their presenting complaints;
- Get enough rest; and,
- Always report near misses.

Finally, nurses are encouraged to trust their nursing knowledge, even when the order was written by an MD, filled by a pharmacist and already questioned once by a charge nurse. *Never give a medicine that you question!* noted one respondent.

Summary

Insufficient numbers of adequately experienced nurses on staff resulting in utilization of "float" nurses; as well as a lack of sufficient support staff to assist nurses in providing safe patient care are repeatedly implicated in medication errors. Registered nurses (RNs) were far and away the discipline most reported as being the individuals who prevented errors. The patient outcomes as described were overwhelmingly uneventful. Nurses are encouraged to trust their nursing knowledge, even when the order was written by an MD, filled by a pharmacist and already questioned once by a charge nurse. *Never give a medicine that you question!* noted one respondent.

References

1. *Prevention of Adverse Drug Events. (accessed August 30, 2006).* www.ihi.org/NR/rdonlyres/FDBB51E5-5402-46C6-B527-4120B7EB27EF/0/ade.pdf.

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7. Branowicki, P. *Sentinel events: Opportunities for change* . Presentation at Massachusetts Coalition for the Prevention of Medical Errors Conference, November 18, 2002.

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FOR IMMEDIATE RELEASE
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MEDICATION ERRORS AND SYRINGE SAFETY ARE TOP CONCERNS FOR NURSES ACCORDING TO NEW NATIONAL STUDY

SILVER SPRING, MD – June 18, 2007 – The American Nurses Association (ANA) today announced the findings of the 2007 Study of Injectable Medication Errors, an independent nationwide survey of 1,039 nurses. According to the research, the overwhelming majority of nurses (97 percent) say they "worry" about medication errors, and more than two-thirds (68 percent) believe medication errors can be reduced with more consistent syringe labeling.

"Registered nurses play a critical role in the health care system. ANA's Code of Ethics demands nurses take an active role in addressing the environmental system factors and human factors that present increased risk to patients," says Rebecca M. Patton, MSN, RN, CNOR, American Nurses Association president. "Proper and consistent syringe labeling is one way to reduce risks associated with medication errors."

The 2007 Study of Injectable Medication Errors was developed and co-sponsored by ANA and Inviro Medical Devices (www.inviromedical.com), It was designed to capture opinions, concerns and experiences about challenges related to labeling on syringes, which has been a Joint Commission recommendation since 2006. Results of the study can be downloaded at: http://www.nursingworld.org/coeh/resources/.

Injectable medication errors
When asked about the point in the process medication errors are most likely to occur, the majority of nurses say either during the preparation and administering of medication to patients (48 percent), or during the transcription of the initial order (47 percent).

To help reduce injectable medication errors, the vast majority of nurses (81 percent) believe their healthcare facility should ensure sufficient staff is available for timely and efficient administration.

Nurses indicate the most common factors contributing to injectable medication errors are:
- Too rushed / busy environment (78 percent)
- Poor / illegible handwriting (68 percent)
- Missed or mistaken physician's orders (62 percent)
- Similar drug names or medication appearance (56 percent)
- Working with too many medications (60 percent)

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Frequency of syringe usage
Nearly half (44 percent) of nurses say they inject medicine via a syringe more than five times per shift, and more than one-third (37 percent) administer injectable medication at least one time per shift.

Labeling injectable medication
Slightly more than one-third (37 percent) of nurses claim injectable medications are always labeled. However, this study identified that as many as 28 percent of nurses nationwide do not label syringes when using them. Of the 72 percent who do, in fact, label syringes, they do so by:

- Writing on self-adhesive labels then applying to syringe (54 percent)
- Writing on pieces of tape and adhering to syringe (31 percent)
- Using Sharpie® and writing directly on syringe (11 percent)
- Writing on paper or sticky note and taping to syringe (4 percent)

While 62 percent are aware of The Joint Commission's 2007 National Patient Safety Goals addressing the labeling of all medications and medication containers, only half (51 percent) of respondents are aware that The Joint Commission has determined that the pre-labeling of syringes does not meet labeling goals, since the label should be prepared only at the time the medication or solution is prepared.

Challenges of labeling
Challenges often arise when attempting to label a syringe. Labels covering measurement gradations on the syringe barrel pose the greatest problem (65 percent). Fifty-five percent of nurses consider the absence of a suitable label poses the greatest challenge, while 39 percent think a label impairs their ability to accurately check the dosage when comparing it to the order.

Benefits of a write-on stripe
When nurses were asked their opinions about a write-on stripe manufactured on the syringe, the vast majority (95 percent) believe the greatest benefit is the fact that it would not interfere with visibility of the syringe content or gradations on the syringe barrel. Ninety-three percent believe it will reduce the risk of error, while 92 percent of nurses say a write-on stripe also helps address The Joint Commission's goal for medication labeling.

"This research confirms that our healthcare systems need new technology that simply and efficiently improves patient and employee safety," says Gareth Clarke, chief executive officer of Inviro Medical Devices. "To help address the challenges associated with injectable medication errors and to comply with The Joint Commission's goal for medication labeling, we are adding the InviroSTRIPE® feature -- an integral write-on stripe that allows for critical information to be recorded directly onto the syringe barrel -- to our full range of InviroSNAP!® safety syringes and our standard luer lock syringes."

Nurses Influence on selection of sharps devices
Eighty-one percent of nurses reveal that safety syringes are used in most or all departments within their healthcare facility. Even though the 2000 Needlestick Safety and Prevention Act – (NSPA), adopted as public law 106-430 by the 106th Congress, mandates that institutions conduct annual product reviews and that nurses be involved in the decision-making process, the majority of nurses (58 percent) say they do not have an opportunity to influence the selection of sharps safety devices used at their healthcare facility.

Additional health and safety concerns
According to 65 percent of nurses, health and safety concerns play a key role in determining the specific area in which they choose to work, as well as their decision to continue practicing.

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The top four health and safety concerns for nurses nationwide are acute / chronic effects of stress and overwork (72 percent), back injuries (67 percent), infection of tuberculosis or other infectious disease (38 percent), and getting HIV or hepatitis from a needlestick injury (35 percent).

The study also reveals that 55 percent of nurses have experienced needlestick injuries from needles contaminated by blood or body fluids.

"We are honored to support ANA's goal to continue bringing value to its members by addressing topical workplace issues with this survey," shares Jean McDowell, vice president of clinical affairs for Inviro Medical Devices. "Inviro Medical will apply the input secured from front-line nurses to further improve our safe medication delivery systems."

"This study clearly indicates a need for the right safety equipment -- especially in regard to injectables -- to reduce the risk of medication errors and sharps-related injuries," adds Patton.

About the survey
Conducted in April, the 2007 Study of Injectable Medication Errors is based on an online, nationwide survey of nurses. The study is sponsored by the American Nurses Association, with support provided by Inviro Medical Devices.

Of the 1,039 nurses surveyed:
- 22 percent have been a nurse for one to five years
- 12 percent have been nurses for 6 to 10 years
- 15 percent have been nurses for 11 to 15 years
- 51 percent have been nurses for more than 15 years

The survey's margin of error is plus or minus 3 percent.

About American Nurses Association
The American Nurses Association (ANA) is the only full-service professional organization representing the interests of the nation's 2.9 million registered nurses through its 54 constituent member nurses' associations. The ANA advances the nursing profession by fostering high standards of nursing practice, promoting the rights of nurses in the workplace, projecting a positive and realistic view of nursing, and by lobbying the Congress and regulatory agencies on health care issues affecting nurses and the public.

About Inviro Medical Devices
Founded in 1988, Inviro Medical Devices engineers and markets safe medication delivery systems, including the InviroSNAP!® with InviroSTRIPE® Safety Syringes. After years of research to develop its patents and refine its product designs, the company is addressing the growing $1.6 billion safety syringe market and introducing its breakthrough infection control technology in North America. Headquartered in Atlanta, Inviro Medical Devices is becoming a leading industry champion in the quest to increase infection control awareness and to protect healthcare workers, patients and the environment with innovative medical devices. For more information, visit www.inviromedical.com.

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Editor's Note - Camera-ready charts and graphs of key findings from the 2007 Study of Injectable Medication Errors are available by contacting Media Contacts listed on page 1.

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The ANA is the only full-service professional organization representing the interests of the nation's 2.9 million registered nurses through its 54 constituent member nurses associations. The ANA advances the nursing profession by fostering high standards of nursing practice, promoting the rights of nurses in the workplace, projecting a positive and realistic view of nursing, and by lobbying the Congress and regulatory agencies on health care issues affecting nurses and the public.

fail.

Drug information

Accurate and current drug information must be readily available to all caregivers. This information can come from protocols, text references, order sets, computerized drug information systems, medication administration records, and patient profiles.

Adequate communication

Many medication errors stem from miscommunication among physicians, pharmacists, and nurses. Communication barriers should be eliminated and drug information should always be verified. One way to promote effective communication among team members is to use the "SBAR" method (situation, background, assessment, and recommendations).

Poor communication accounts for more than 60% of the root causes of sentinel events reported to the Joint Commission (JC). In a 2001 case, a patient died after labetalol, hydralazine, and extended-release nifedipine were crushed and given by NG tube. (Crushing extended-release medications allows immediate absorption of the entire dosage.) As a result, the patient experienced profound bradycardia and hypotension leading to cardiac arrest. Although she was successfully resuscitated, she received the drugs the same way the next day. Clinicians had failed to communicate to other team members that her initial cardiac arrest had occurred shortly after she'd received the medications improperly.

Drug packaging, labeling, and nomenclature

Healthcare organizations should ensure that all medications are provided in clearly labeled unit-dose packages for institutional use. Packaging for many drugs looks similar. A tragic case stemming from such similarity occurred with heparin (one of the drugs on the JC's "high-alert" list, meaning it has a high potential for causing patient harm). A few years ago, several pediatric patients received massive heparin overdoses due to misleading packaging and labeling; three infants died. As a result, the Food and Drug Administration and Baxter Healthcare (the heparin manufacturer) issued a letter via the MedWatch program alerting clinicians to the danger posed by similarly packaged drugs. Baxter has since enhanced the labels on heparin and some other high-alert drugs; it now uses a 20% larger font size, tear-off cautionary labels, and different colors to distinguish differing drug dosages.

Look-alike or sound-alike medications—products that can be confused because their names look alike or sound alike—also are a source of errors. From 2003 to 2006, 25,530 such errors were reported to the Medication Errors Reporting Program (operated jointly by the U.S. Pharmacopeia and ISMP) and MEDMARX (an adverse drug event database). The JC requires healthcare institutions to identify look-alike and sound-alike drugs each year and have a process in place to help ensure related errors don't occur.

Medication storage, stock, standardization, and distribution

Many experienced nurses remember when critical care units kept a medication "stash," which frequently caused duplication errors. Potentially, many errors could be prevented by decreasing availability of floor-stock medications, restricting access to high-alert drugs, and distributing new medications from the pharmacy in a timely manner.

Also, hospitals can use commercially available products to decrease the need for I.V. compounding medications and I.V. admixing. Use of preprinted order sets and standardized formularies can reduce errors, too. The Institute for Healthcare Improvement recommends standardized order sets and preprinted protocols for 75% of the drugs healthcare facilities use. These orders and protocols help clinicians promptly select correct dosing regimens, routes, and parameters while eliminating ambiguous abbreviations and the risk of misreading a prescriber's handwriting.

However, errors can occur even when automated dispensing cabinets are stocked by technicians. In a recent error reported to the ISMP, a technician filled an automated dispensing cabinet with the wrong concentration of a premixed potassium chloride I.V. solution.

Drug device acquisition, use,and monitoring

Improper acquisition, use, and monitoring of drug delivery devices may lead to medication errors. Some delivery systems have inherent flaws that increase the error risk. For example, at one time, I.V. medication tubing continued to flow or infuse when removed from the pump. Thus, patients could receive boluses of medications or I.V. solutions, which sometimes had deleterious outcomes. During the admission process, for instance, a patient receiving nitroprusside could receive a large infusion of this drug when the I.V. tubing was removed from the pump and the patient was transferred from one bed to another. This design flaw has since been resolved. In addition, syringes for administering oral medications should not be compatible with I.V. tubing.

Environmental factors

Environmental factors that can promote medication errors include inadequate lighting, cluttered work environments, increased patient acuity, distractions during drug preparation or administration, and caregiver fatigue. (See The fatigue factor by clicking on the PDF icon above.)

Distractions and interruptions can disrupt the clinician's focus, leading to serious mistakes. To reduce interruptions, Sentara Leigh Hospital in Norfolk, Virginia has instituted a "no interruption" zone around the automated medication dispensing machines; coworkers know not to interrupt a nurse who's obtaining medication from the machine.

Heavier workloads also are associated with medication errors. The nursing shortage has increased workloads by increasing the number of patients for which a nurse is responsible. Also, nurses perform many tasks that take them away from the patient's bedside, such as answering the telephone, cleaning patients' rooms, and delivering meal trays. Absence of nurses from the bedside is directly linked to compromised patient care.

Staff education and competency

Continuing education of the nursing staff can help reduce medication errors. Medications that are new to the facility should receive high teaching priority. Staff should receive updates on both internal and external medication errors, as an error that has occurred at one facility is likely to occur at another. (The heparin overdoses described earlier happened at multiple institutions.)

As medication-related policies, procedures, and protocols are updated, this information should be made readily available to staff members. Also, nurses can attend pharmacy grand rounds. Some facilities now use nursing grand rounds as a way to keep staff members competent.

Patient education

Caregivers should teach patients the name of each medication they're taking, how to take it, the dosage, potential adverse effects and interactions, what it looks like, and what it's being used to treat.

Quality processes and risk management

A final strategy for reducing medication errors is to establish adequate quality processes and risk-management strategies. Every facility should have a culture of safety that encourages discussion of medication errors and near-misses (errors that don't reach a patient) in a nonpunitive fashion. Only then can effective systems-based solutions be identified and used.

Simple redundancies, such as using an independent double-check system when giving high-alert drugs, can catch and correct errors before they reach patients. According to the Institute of Medicine, organizations with a strong culture of safety are those that encourage all employees to stay vigilant for unusual events or processes.

Consequences for the nurse

For a nurse who makes a medication error, consequences may include disciplinary action by the state board of nursing, job dismissal, mental anguish, and possible civil or criminal charges. In one study of fatal medication errors made by healthcare providers, the providers reported they felt immobilized, nervous, fearful, guilty, and anxious. Many experienced insomnia and loss of self-confidence.

Avoiding medication errors

How can you safeguard your practice from medication errors? For starters, be conscientious about performing the "five rights" of medication administration every time—right patient (using two identifiers), right drug, right dosage, right time, and right route. Some experts have expanded this list to include:

- right reason for the drug
- right documentation
- right to refuse medication
- right evaluation and monitoring

Be sure to use the safety resources available at your facility. Don't use workarounds to bypass safety systems. In a 2008 study, one-third of nurses reported they sometimes bypass safety systems. Nurses working in critical care and pediatrics were more likely to do this; yet medication errors in these settings can be particularly devastating. Where nurses routinely bypass safety systems and create workarounds, the employer must conduct a root-cause analysis to identify the reason for the workaround, and take action to correct the situation and prevent recurrences.

Additional steps you can take to promote safe medication use include:

- reading back and verifying medication orders given verbally or over the phone. (See Reading back medication orders by clicking on the PDF icon above.)
- asking a colleague to double-check your medications when giving high-alert drugs
- using an oral syringe to administer oral or NG medications
- assessing patients for drug allergies before giving new medications
- becoming familiar with your facility's "do not use" list of abbreviations. In 2004, the JC published a list of abbreviations that shouldn't be used because they can contribute to medication errors. For instance, in one documented case, a "naked" decimal point (one without a leading zero) led to a fatal tenfold overdose of morphine in a 9-month-old infant. The dosage was written as ".5 mg" and interpreted as "5 mg."

Eliminating medication errors

Avoiding medication errors requires vigilance and the use of appropriate technology to help ensure proper procedures are followed. Computerized physician order entry reduces errors by identifying and alerting physicians to patient allergies or drug interactions, eliminating poorly handwritten prescriptions, and giving decision support regarding standardized dosing regimens.

The Leapfrog Group (whose mission is to trigger giant leaps forward in healthcare safety, quality, and affordability) supports computerized physician order entry as a way to reduce medication errors. Use of computerized physician order entry and barcodes may reduce errors by up to 50%.

Yet computerization can't prevent or catch all errors. In one near-miss incident, an I.V. bag of a standardized diltiazem (Cardizem) solution (125 mg in 125 mL normal saline solution) was inadvertently labeled as an insulin drip, even though it had scanned correctly (the barcode had been applied by the pharmacy). Fortunately, an alert ICU nurse realized the bag she had in her hand was a premixed solution and not a pharmacy admixture. When she turned it over, she could see the manufacturer's label.

Be sure to use the safety practices already in place in your facility. Eliminate distractions while preparing and administering medications. Learn as much as you can about the medications you administer and ways to avoid mistakes. (See Websites that can help you avoid medication errors by clicking on the PDF icon above.) Finally, be aware of the role fatigue can play in medication errors.

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